

# Transistors (Selection Guide by Applications and Functions)

## Resistor Built-in Transistor Series (For Digital Circuits, etc.)

| Series Name          | UN1000 Series        |   | UN2000 Series            |                          | UN2000T Series           |                          | UN4000 Series                                 |                       | UN5000 Series            |                      | UN6000 Series       |                      | UN7000 Series       |                     | UN8000 Series        |                     | UN9000 Series       |                      | Main Characteristics (Ta = 25 °C) |                     |                      |  |
|----------------------|----------------------|---|--------------------------|--------------------------|--------------------------|--------------------------|---|-----------------------|--------------------------|----------------------|---------------------|----------------------|---------------------|---------------------|----------------------|---------------------|---------------------|----------------------|-----------------------------------|---------------------|----------------------|--|
|                      | Package (No.)        | M Type (D35)  | Mini Type (D12)          | T Mini Type (D22)        | New S Type(D34)          | S Mini Type (D5)         | MT1 Type (D37)                                | MT2 Type (D38)        | SS Mini Type (D1)        | V <sub>CE0</sub> (V) | I <sub>C</sub> (mA) | h <sub>FE</sub> min. | V <sub>CE</sub> (V) | I <sub>C</sub> (mA) | h <sub>FE</sub> min. | V <sub>CE</sub> (V) | I <sub>C</sub> (mA) | h <sub>FE</sub> min. | V <sub>CE</sub> (V)               | I <sub>C</sub> (mA) | h <sub>FE</sub> min. |  |
| Resistance value     |                      | (P <sub>C</sub> = 400mW, 600mW <sup>1</sup> , 1W <sup>2</sup> ) | (P <sub>C</sub> = 200mW) | (P <sub>C</sub> = 200mW) | (P <sub>C</sub> = 300mW) | (P <sub>C</sub> = 150mW) | (P <sub>C</sub> = 400mW, 600mW <sup>1</sup> ) | (P <sub>C</sub> = 1W) | (P <sub>C</sub> = 125mW) |                      |                     |                      |                     |                     |                      |                     |                     |                      |                                   |                     |                      |  |
| R <sub>B</sub> (kΩ)  |                      |   |                          |                          |                          |                          |   |                       |                          |                      |                     |                      |                     |                     |                      |                     |                     |                      |                                   |                     |                      |  |
| R <sub>BE</sub> (kΩ) |                      |   |                          |                          |                          |                          |   |                       |                          |                      |                     |                      |                     |                     |                      |                     |                     |                      |                                   |                     |                      |  |
| 10                   | UN1111               | UN1211  | UN2111                   | UN2111T                  | UN4111                   | UN5111                   | UN6111  | UN9111                | UN6211                   | UN5211               | UN6211              | UN9111               | UN9211              | UN6211              | UN5211               | UN6211              | UN9111              | UN9211               | UN6211                            | UN5211              | UN6211               |  |
| 10                   | UN1112               | UN1212  | UN2112                   | UN2112T                  | UN4112                   | UN5112                   | UN6112  | UN9112                | UN6212                   | UN5212               | UN6212              | UN9112               | UN9212              | UN6212              | UN5212               | UN6212              | UN9112              | UN9212               | UN6212                            | UN5212              | UN6212               |  |
| 22                   | UN1113               | UN1213  | UN2113                   | UN2113T                  | UN4113                   | UN5113                   | UN6113  | UN9113                | UN6213                   | UN5213               | UN6213              | UN9113               | UN9213              | UN6213              | UN5213               | UN6213              | UN9113              | UN9213               | UN6213                            | UN5213              | UN6213               |  |
| 47                   | UN1114               | UN1214  | UN2114                   | UN2114T                  | UN4114                   | UN5114                   | UN6114  | UN9114                | UN6214                   | UN5214               | UN6214              | UN9114               | UN9214              | UN6214              | UN5214               | UN6214              | UN9114              | UN9214               | UN6214                            | UN5214              | UN6214               |  |
| 10                   | UN1115               | UN1215  | UN2115                   | UN2115T                  | UN4115                   | UN5115                   | UN6115  | UN9115                | UN6215                   | UN5215               | UN6215              | UN9115               | UN9215              | UN6215              | UN5215               | UN6215              | UN9115              | UN9215               | UN6215                            | UN5215              | UN6215               |  |
| 10                   | UN1116               | UN1216  | UN2116                   | UN2116T                  | UN4116                   | UN5116                   | UN6116  | UN9116                | UN6216                   | UN5216               | UN6216              | UN9116               | UN9216              | UN6216              | UN5216               | UN6216              | UN9116              | UN9216               | UN6216                            | UN5216              | UN6216               |  |
| 4.7                  | UN1117               | UN1217  | UN2117                   | UN2117T                  | UN4117                   | UN5117                   | UN6117  | UN9117                | UN6217                   | UN5217               | UN6217              | UN9117               | UN9217              | UN6217              | UN5217               | UN6217              | UN9117              | UN9217               | UN6217                            | UN5217              | UN6217               |  |
| 22                   | UN1118               | UN1218  | UN2118                   | UN2118T                  | UN4118                   | UN5118                   | UN6118  | UN9118                | UN6218                   | UN5218               | UN6218              | UN9118               | UN9218              | UN6218              | UN5218               | UN6218              | UN9118              | UN9218               | UN6218                            | UN5218              | UN6218               |  |
| 0.51                 | UN1119               | UN1219  | UN2119                   | UN2119T                  | UN4119                   | UN5119                   | UN6119  | UN9119                | UN6219                   | UN5219               | UN6219              | UN9119               | UN9219              | UN6219              | UN5219               | UN6219              | UN9119              | UN9219               | UN6219                            | UN5219              | UN6219               |  |
| 1                    | UN1110               | UN1210  | UN2110                   | UN2110T                  | UN4110                   | UN5110                   | UN6110  | UN9110                | UN6210                   | UN5210               | UN6210              | UN9110               | UN9210              | UN6210              | UN5210               | UN6210              | UN9110              | UN9210               | UN6210                            | UN5210              | UN6210               |  |
| 47                   | UN1111D              | UN121D  | UN211D                   | UN211DT                  | UN411D                   | UN511D                   | UN611D  | UN911D                | UN621D                   | UN521D               | UN621D              | UN911D               | UN921D              | UN621D              | UN521D               | UN621D              | UN911D              | UN921D               | UN621D                            | UN521D              | UN621D               |  |
| 47                   | UN111E               | UN121E  | UN211E                   | UN211ET                  | UN411E                   | UN511E                   | UN611E  | UN911E                | UN621E                   | UN521E               | UN621E              | UN911E               | UN921E              | UN621E              | UN521E               | UN621E              | UN911E              | UN921E               | UN621E                            | UN521E              | UN621E               |  |
| 47                   | UN111F               | UN121F  | UN211F                   | UN211FT                  | UN411F                   | UN511F                   | UN611F  | UN911F                | UN621F                   | UN521F               | UN621F              | UN911F               | UN921F              | UN621F              | UN521F               | UN621F              | UN911F              | UN921F               | UN621F                            | UN521F              | UN621F               |  |
| 2.2                  | UN111H               | —   | UN211H                   | —                        | UN411H                   | —                        | UN611H  | —                     | UN621H                   | —                    | UN621H              | UN911H               | —                   | —                   | —                    | UN911H              | —                   | —                    | —                                 | —                   | —                    |  |
| 10                   | UN121K               | —   | UN221K                   | —                        | UN421K                   | —                        | UN621K  | —                     | UN621K                   | —                    | UN621K              | —                    | —                   | —                   | —                    | UN621K              | —                   | —                    | —                                 | —                   | —                    |  |
| 4.7                  | UN111L               | UN121L  | UN211L                   | UN211LT                  | UN411L                   | UN511L                   | UN611L  | UN911L                | UN621L                   | UN521L               | UN621L              | UN911L               | UN921L              | UN621L              | UN521L               | UN621L              | UN911L              | UN921L               | UN621L                            | UN521L              | UN621L               |  |
| 2.2                  | UN211M               | —   | UN221M                   | —                        | UN421M                   | —                        | UN621M  | —                     | —                        | —                    | —                   | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 4.7                  | UN211N               | —   | UN221N                   | —                        | UN421N                   | —                        | UN621N  | —                     | —                        | —                    | —                   | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 22                   | UN211T               | —   | UN221T                   | —                        | UN421T                   | —                        | UN621T  | —                     | —                        | —                    | —                   | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 2.2                  | UN211V               | —   | UN221V                   | —                        | UN421V                   | —                        | UN621V  | —                     | —                        | —                    | —                   | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 4.7                  | UN211Z               | —   | UN221Z                   | —                        | UN421Z                   | —                        | UN621Z  | —                     | —                        | —                    | —                   | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 2.2                  | UN1221 <sup>1</sup>  | UN1221 <sup>1</sup>   | UN2221                   | —                        | UN4221                   | —                        | UN6221 <sup>1</sup>                           | —                     | —                        | —                    | UN6221 <sup>1</sup> | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 4.7                  | UN1222 <sup>1</sup>  | UN1222 <sup>1</sup>   | UN2222                   | —                        | UN4222                   | —                        | UN6222 <sup>1</sup>                           | —                     | —                        | —                    | UN6222 <sup>1</sup> | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 10                   | UN123 <sup>1</sup>   | UN123 <sup>1</sup>  | UN223                    | —                        | UN4223                   | —                        | UN6223 <sup>1</sup>                           | —                     | —                        | —                    | UN6223 <sup>1</sup> | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 2.2                  | UN124 <sup>1</sup>   | UN124 <sup>1</sup>  | UN224                    | —                        | UN4224                   | —                        | UN6224 <sup>1</sup>                           | —                     | —                        | —                    | UN6224 <sup>1</sup> | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 0.27                 | UN12X <sup>1</sup>   | —   | UN22X                    | —                        | UN42X                    | —                        | UN62X   | —                     | —                        | —                    | UN62X               | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 3.1                  | UN12Y <sup>1</sup>   | —   | UN22Y                    | —                        | UN42Y                    | —                        | UN62Y   | —                     | —                        | —                    | UN62Y               | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 10                   | —                    | —   | —                        | UN2225T                  | —                        | —                        | UNR5225                                       | —                     | —                        | UNR5225              | —                   | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 4.7                  | —                    | —   | —                        | UN2226T                  | —                        | —                        | UNR5226                                       | —                     | —                        | UNR5226              | —                   | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 6.8                  | —                    | —   | —                        | UN2227T                  | —                        | —                        | UNR5227                                       | —                     | —                        | UNR5227              | —                   | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 1                    | UN1231 <sup>2</sup>  | —   | —                        | —                        | —                        | —                        | —   | —                     | —                        | —                    | —                   | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 1                    | UN1231A <sup>2</sup> | —   | —                        | —                        | —                        | —                        | —   | —                     | —                        | —                    | —                   | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |
| 10                   | —                    | —   | UN2154                   | —                        | —                        | UN5154                   | —   | —                     | —                        | —                    | —                   | —                    | —                   | —                   | —                    | —                   | —                   | —                    | —                                 | —                   | —                    |  |

